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(6690)

Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
600 North Adams Street
P.O. Box 19002
Green Bay, WI 54307-9002

January 31, 2001

Ms. Lynda L. Dorr
Secretary to the Commission of Wisconsin
610 North Whitney Way
P. O. Box 7854
Madison, WI 53707-7854

PSCW Rule 113.0607 Appropriate Inspection and Maintenance System Reliability for Kewaunee Nuclear Power Plant

Dear Ms. Dorr:

Enclosed is the Kewaunee Nuclear Power Plant (KNPP) Preventative Maintenance Plan as required by PSC Rule 113.0607. This plan outlines and describes the performed inspections and planned maintenance activities for the plant. Due to the number of procedures, this plan does not provide all the detailed procedures and programs required to be performed by plant technical specifications, NRC regulation, insurance requirements or other commitments. Should there be a need to review the detailed procedures and programs, they will always be available at the plant for your review.

In addition to this information, the Kewaunee Plant will be shutting down during September 2001 for a refueling outage. Recall that the KNPP is on an 18-month refueling cycle. During this outage, the major priority for the plant staff will be replacing the steam generators. In addition, thousands of maintenance tasks will be performed on the plant's safety related equipment and equipment important to safety. The non-safety related equipment will be maintained in accordance with normal routine outage maintenance. Finally, a low pressure turbine rotor will be changed out with a spare rotor and an exciter/electrical generator inspection (crawl through) will also be performed.

Should you need any additional information, please feel free to call me at 920-433-1308.

Sincerely,

David J. Molzahn
Director – Nuclear Oversight

Enclosure

cc: John Palmer KNPP
Doug Johnson NMC Hudson

Wisconsin Public Service Corporation

Preventative Maintenance Plan

Kewaunee Nuclear Power Plant

January 31, 2001

Prepare By: John A. Palmer

PREVENTIVE MAINTENANCE PLAN

GENERATION FACILITIES

Scope

The purpose of this Preventive Maintenance Plan is to outline and describe the inspections performed and maintenance activities planned for the Company's Kewaunee Nuclear Power Plant and is factored into determining the necessity for equipment replacements or repairs. This plan satisfies the requirements of Wisconsin Administrative Code – Electric Service Rules, specifically, PSC Rule 113.0607, Appropriate Inspection and Maintenance: System Reliability.

As practiced at Kewaunee Nuclear Power Plant, preventive maintenance is composed of a number of elements and activities that are designed to achieve a high level of reliability when the generating unit is required to be operable. These elements and activities involve scheduled operator observations, planned inspections, condition monitoring, surveillance testing, as well as the use of predictive maintenance technologies and planned maintenance tasks labeled preventive maintenance. These tasks are under a continuous assessment of implementation in order to achieve a high level of plant unit reliability.

Applicability

In accordance with the Wisconsin PSC Rule 113.0607 requirements for utility generator's of 50 MWs or more, this preventive maintenance plan applies to the Kewaunee Nuclear Power Plant.

Responsibilities

The Assistant Plant Manager – Maintenance is responsible for implementation of this preventive maintenance plan and for ensuring the correction of deficiencies found during the preventive maintenance tasks.

Preventive Maintenance

Time based maintenance tasks performed based on the component/system importance to plant safety and power production and considering the system's component equipment operational usage, the local environment, equipment performance history and equipment supplier input. Preventive maintenance tasks include oil changes, lubrications, instrument calibrations, filter changes, monitoring of equipment parts expected to wear and "hours" in use or "meter-based" inspections/replacements of normally expected worn/diminished components. Task performance frequency is dependent on the particular system, the particular equipment and the particular task.

The Preventive Maintenance Program is adjusted based on the station's Preventive Maintenance Optimization (PMO) Program. The PM Optimization Process has its roots in Reliability Centered Maintenance. It is a methodology systemized for optimization of an existing PM program. PM Optimization emphasizes the maintenance of system/component functions and considers the inherent reliability of individual components. A structured decision logic is used to select the most appropriate PM task for each critical component failure. History, failures, staff interviews, predictive maintenance results, trendable measures, and commitments are used to evaluate and provide a documented basis for benchmarking the frequency of performance. The living program, consisting of a dynamic interface with Planning and Scheduling, along with performance feedback and work order history, will provide for re-evaluations that will optimize tasks and frequencies, providing the most effective priority-based preventive maintenance, with consideration of safety and economics.

Predictive Maintenance

Many predictive maintenance technologies have proven useful to assist in accurately assessing equipment condition. These fundamental key technologies provide information needed to assess equipment condition and, therefore, form the basis for this sites predictive maintenance program. Additional technologies available such as, Motor Power Monitoring (MPM), ultrasonics, nondestructive inspection techniques and plant computer points (temperature, pressure, etc.) are used to supplement the key technologies to detect failure mechanisms not readily detectable by the key methods. The key technologies include but are not limited to the following:

Vibration Monitoring and Diagnostics - techniques used typically for the monitoring and analysis of plant rotating equipment -- This technology analyzes and trends displacement, velocity, and acceleration vibration patterns to predict the need to correct problems in rotating equipment such as degraded bearings, improper alignments, and out-of-balance or worn components prior to equipment failure. It has also proven useful in assessing system piping and building structures through operational deflection shapes and modal analysis.

Lubrication Analysis - techniques used to detect lubricant breakdown and abnormal equipment internal wear. Lubricating oil analyses monitor the physical properties of the oil. Some properties measured include viscosity, moisture content, acidity, and the presence of additives or contaminants such as engine fuel or dirt. Grease analyses detect changes in the lubrication properties of grease. Sensory tests such as color, odor, and consistency are most often applied to greases, in addition to laboratory testing.

Infrared Thermography Imaging - a technique based on measuring and comparing infrared radiation emitted from various equipment surfaces -- Infrared surveys can be performed on heat-producing equipment such as motors, circuit breakers, electrical distribution panels, batteries, electrical connections, thermal insulation, or rotating equipment couplings. Infrared thermography can also aid in determining condenser in-leakage locations, tank levels, internal valve leaks, and rotating equipment alignment problems.

Operating Equipment Observation - a technique that does not require sophisticated data-gathering techniques or expensive test equipment but instead uses readily available equipment operating parameters and observation of equipment operation – Adverse trends in equipment operating parameters during steady-state operations or unexpected parameter changes that occur during transient conditions may indicate the need to perform more sophisticated predictive maintenance. Obvious unusual noises or smells around operating equipment may also indicate equipment problems requiring follow-up.

The extent of component degradation indicated by predictive maintenance activities is evaluated and integrated as appropriate into the corrective and preventive maintenance program. The maintenance work management process is used to plan and schedule activities to effectively and efficiently complete predictive maintenance activities.

Inspections

In-Service – Inspections performed on equipment or unit systems to determine current condition relative to design intent. These tasks are performed utilizing test methods and frequencies specified by the following:

- ASME Boiler and Pressure Vessel Code Section XI 1989 Edition "Rules for Inservice Inspection of Nuclear Power Plant Components" for Class 1, 2 and 3.

- ASME Boiler and Pressure Vessel Code Section XI 1992 Edition with 1992 Addenda "Rules for Inservice Inspection of Nuclear Power Plant Components" for Class MC.

Testing

In-Service – Periodic testing of pumps and valves in accordance with the requirements of ASME Boiler and Pressure Vessel Code, Section XI, 1989 edition and Operations and Maintenance of Nuclear Power Plants, ASME/ANSI-1987 with OMa 1988 addenda.

Surveillance – Testing, inspection or observation to verify that structures, systems and components/equipment continue to function or be in a state of readiness to perform functions. The surveillance program is designed to meet the requirements of the station's Technical Specifications.

The above forms of preventive maintenance are used to maintain equipment operability and to identify equipment conditions requiring corrective maintenance. In addition, the above forms of preventive maintenance can result in equipment upgrades, application of new equipment technologies and changes to operating practices.

Equipment Performance Monitoring

Equipment/system performance is monitored, trended and evaluated in accordance with the requirements of Code of Federal Regulations 10CFR 50.65 "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants".

Corrective Actions

The results of the inspection, preventive maintenance or test activities provide input to the maintenance of the facility. In general, maintenance is performed in a reasonable period where required to achieve operational safety, environmental compliance and to achieve unit reliability for production. Scheduling and processing of station corrective maintenance is controlled by station directives.

Records

Records related to the preventive, predictive and corrective maintenance programs are maintained and retained in accordance with the station's Operational Quality Assurance Program and Technical Specifications.

Reports

An annual report for the previous calendar year will be submitted to the PSC. The submittal will be on or before May 1 of each year. The report will provide notice of compliance to the preventive maintenance plan and exceptions or changes made to the plan.